

REMARKS:

This paper is herewith filed in response to the Examiner's final Office Action mailed on August 21, 2007 for the above-captioned U.S. Patent Application. This office action is a rejection of claims 1-37 of the application.

More specifically, the Examiner has rejected claims 1-37 under 35 USC 102(e) as being anticipated by Shanahan (US6,732,090); and rejected claims 1-37 under 35 USC 103(a) as being unpatentable over Brecher (US7,054,754) in view of Shanahan. The Applicant respectfully traverses the rejections.

Claims 1, 13, 25, and 35 have been amended for clarification. Claims 3-4, 15-16, and 27-28 have been amended accordingly. Claims 38 and 39 have been added. Support for the amendments can be found at least on page 9, line 10-16 and page 10, lines 1-20. No new matter is added.

Regarding the rejection of claim 1 under 35 USC 102(e) the Applicants respectfully traverse the rejection.

The Applicants note that claim 1 has been amended for clarification to recite:

A method to process a document, comprising: partitioning document text separated by spaces into a plurality tokens based on the spaces; identifying tokens to be ignored and not considered; determining that a first token considered of the plurality of tokens comprises a chemical name fragment, wherein determining comprises: examining syntax of the first token, examining context of the first token with respect to at least one adjacent token of the plurality of tokens, and taking into account the syntax and the context, applying to the first token a plurality of regular expressions, rules, and a plurality of dictionaries comprised of a prefix dictionary, and a suffix dictionary to recognize chemical name fragments; combining the first token with at least one of the adjacent tokens that are determined to be a chemical name fragment into a complete chemical name, assigning the complete chemical name with one part of speech; and storing in a memory the complete chemical name assigned with the one part of speech.

In the Response to Arguments section of the final Office Action the Examiner states:

“According to claim 1, the limitation recites combining recognized chemical name fragments into complete sentences. Shanahan teaches a chemical formula recognizer (column 53, lines 7-19) combined with the auto-completion method (column 58, line 49 — column 60, line 45). Therefore, Applicants arguments are not persuasive,” (emphasis added).

Firstly, the Applicant note that Shanahan may disclose a **chemical formula recognizer** but Shanahan does not disclose a **chemical name fragment recognizer** as seen to be required for an anticipation rejection of claim 1.

Moreover, the Applicants contend that Shanahan at least does not disclose, as clarified in claim 1, “partitioning document text separated by spaces into a plurality of tokens based on the spaces; determining that a first token considered of the plurality of tokens comprises a chemical name fragment.”

Regarding the “**auto-completion method**” as noted by the Examiner, Shanahan discloses:

FIG. 46 illustrates a logic flow diagram **for selecting words using the auto-completion system** shown in FIG. 44. In box 4602, **a request for word auto-completion is received**. In one embodiment, **a user types in the initial characters of a word (e.g., the first two, three, four, etc. characters of a word)**. The user may then invoke an auto-completion process in module 4302 by selecting a request key such as a right arrow key on a keyboard,” (emphasis added), (col. 58, lines 25-33).

The Applicants submit that the “**word auto-completion**” method as disclosed in Shanahan is merely used to complete a single word already **partially typed** by a user. Moreover, the Applicants contend that there is no disclosure in Shanahan that the “**word auto-completion**” method can be used to anticipate identifying tokens separated by spaces that are chemical name fragments and **combine the recognized tokens that are separated by spaces into a complete chemical name** as in claim 1.

The Applicants contend that in Shanahan “**a chemical formula recognizer [...] combined with the auto-completion method,**” as stated by the Examiner, clearly can not be seen to anticipate claim 1.

For at least the reasons stated the Applicant contends that Shanahan can not be seen to anticipate claim 1 and the rejection of claim 1 under 35 USC 102(e) should be removed.

In addition the Applicants note that claims 13, 25, and 35 recite similar features of claim 1 as stated above thus Shanahan can not be seen to anticipate all the claims 1, 13, 25, and 35.

Further, for at least the reason that claims 2-12; 14-24; 26-34; and 36-37 depend from claims 1, 13, 25, and 35 respectively, the Examiner is requested to remove the rejection under 35 USC 102(e) of all claims 1-37.

Regarding the rejection of claims 1-37 under 35 USC 103(a) over Brecher in view of Shanahan the Applicants respectfully disagree with the Examiner.

The Applicants note that Brecher relates to a method to derive chemical structures from chemical names, (abstract). In Brecher a chemical name is supplied and the chemical name pre-processed before determining a chemical structure. In Brecher, pre-processing includes converting the name to all lower case characters and identifying any typographical errors etc. (col. 3, lines 1-13). In addition, Brecher discloses an uninversion method for pre-processing chemical names that are supplied inverted (col. 3, lines 14-24).

For uninversion of a received chemical name Brecher discloses a method that identifies inverted chemical name fragment boundaries by identifying delimiters at the boundaries such as commas (col. 3, lines 18-24). Then in Brecher a mark is inserted at these boundaries. The mark that appears to be used most often by Brecher is the “@” sign. Brecher discloses that the “@” sign is “rarely used in chemical names,” (col. 3, lines 31-39). Further, in the pre-processing method, the name which includes the inserted marks is scanned from left to right and based on the characters

and the marks the name is manipulated further. In addition, Brecher discloses that “With some exceptions, characters are copied to the new buffer unmodified,” (col. 3, lines 40-67). Thereafter, it appears that the complete name is read from a buffer and compared to a list of symbols and stored characters (col. 4, line 1 to col. 5, line 67).

Brecher discloses that “**Once preprocessed the name is divided** into a series of fragments,” (emphasis added), (col. 6, lines 29-30). Then Brecher discloses that “At the conclusion of the fragmentation process, the text string of the original input name has been successfully divided into one or more substrings [...],” (col. 8, lines 62-64). Thereafter, Brecher discloses a consolidation process and a chemical structure method (col. 9, lines 3-67).

Firstly, the Applicant contends that Brecher can not be seen to be partitioning a document text separated by spaces into a plurality of tokens based on the spaces.

Brecher discloses:

“With some exceptions, characters are copied to the new buffer unmodified. Commas that are not enclosed within any level of enclosing marks are not copied, but are instead converted to @ signs. **For simplicity, any space characters or additional commas immediately following such a comma are treated as having no syntactic significance, and are not copied;**” and

“Hyphens are also examined during the scan. **If a hyphen is immediately followed by a space character and is not immediately preceded by a comma or a plus ("+" or slash ("/") character, the hyphen is converted to an @ sign. Any space characters or additional commas immediately following such a hyphen are treated as having no syntactic significance, and are ignored,**” (emphasis added), (col. 3, lines 44-57).

The Applicants contend that Brecher does not disclose partitioning a text that is separated by spaces into tokens based on the spaces as in claim 1. The Applicants also note that in Brecher during pre-processing, where spaces are mentioned, Brecher discloses that the spaces can have “no syntactic signifigance, and are ignored.” The Applicants contend that Brecher can not be seen to disclose or suggest “partitioning document text separated by spaces into a plurality of tokens

based on the spaces,” as in claim 1.

In addition, Brecher discloses “a chemical name 12 is supplied via one or more input systems,” (col. 2, lines 47-49) and “The chemical name (“**original input name**”) is preprocessed to standardize its formatting,” (emphasis added), (col. 3, lines 2-3). The Applicant contends that Brecher does not disclose identifying which tokens are to be ignored. The Applicant notes that Brecher is seen to be merely using the “original input name” as it is input via a system. The Applicant contends that Brecher clearly can not be seen to disclose “identifying tokens to be ignored and not considered,” as in claim 1.

Further, the Applicants contend that Brecher can not be seen to disclose determining that a first **considered token of the plurality of tokens** comprises a chemical name fragment. In Brecher fragment **boundaries** are identified during the uninversion process. In Brecher the identification of the **boundaries** is performed on **an already identified inverted chemical name**. As stated above in Brecher these **fragment boundaries** are identified by delimiters such as commas, (emphasis added), (col. 3, lines 18-24). The Applicants contend that there is no disclosure or suggestion in Brechlin that these fragments are separated by spaces such as with a plurality of tokens as in claim 1. Further, the Applicants contend that Brecher can not be seen to be determining that a token surrounded by spaces comprises a chemical name fragment as in claim 1.

Moreover, Brecher discloses that “In the identification, **false boundaries** are determined **from context** and are discarded,” (emphasis added), (col. 3, lines 23-24). However, Brecher makes no disclosure with regards to syntax. The Applicants contend that Brecher can not be seen to disclose or suggest where **syntax of a token is examined** when determining whether a token comprises a chemical fragment name as in claim 1.

Furthermore, Brecher appears to disclose that an **entire chemical name is copied to a temporary buffer** as a text string and applied to a list of characters (col. 3, line 40 to col. 4, line 3). Clearly, Brecher can not be seen to be determining **whether a token comprises a chemical**

name fragment by applying a plurality of regular expressions, rules and a plurality of dictionaries as in claim 1. The Applicants contend that Brecher can not be seen to be “applying to the first token a plurality of regular expressions, rules, and a plurality of dictionaries comprised of a prefix dictionary, and a suffix dictionary to recognize chemical name fragments,” as in claim 1.

Furthermore, for at least the reasons already stated the Applicants contend that even if Brecher and Shanahan were combined, for at least the reasons already stated, the combination would still not disclose or suggest the claims. Thus, the rejection of claims under 35 USC 103(a) should be removed and the claims 1-37 should be allowed.

In addition the Applicants note that claims 13, 25, and 35 recite similar features of claim 1 as stated above thus the combined references cited can not be seen to disclose or suggest all the claims 1, 13, 25, and 35.

Further, for at least the reason that the claims 2-12; 14-24; 26-34; and 36-37 depend from claims 1, 13, 25, and 35 respectively, the Examiner is requested to remove the rejection under 35 USC 103(a) of all the claims 1-37.

Based on the above explanations and arguments, it is clear that the references cited cannot be seen to anticipate or suggest claims 1-39. The Examiner is respectfully requested to reconsider and remove the rejections of claims 1-39 and to allow all of the pending claims 1-39 as now presented for examination.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Should any unresolved issue remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted:

S.N.: 10/670,675
Art Unit: 2626



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12/20/2007

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